

We claim:

1. A ventilator control system, comprising:

a ventilator controller, the ventilator controller including means for communicating with a user, the controller further comprising:

means for enabling the user to initiate the display of a menu of ventilator
5 related parameters;

means for enabling the user to selectively assign values for any of the parameters in the menu; and

means for displaying a breath cycle calculated from the assigned values of the parameters.

2. The system of claim 1, wherein the means for communicating with a user comprises a touch screen.

3. The system of claim 2, wherein the means for enabling the user to initiate the display of a menu of ventilator related parameters comprises a touch screen display having an image that the user selects to initiate the display of the menu.

4. The system of claim 1, wherein the means for communicating with the user comprises:

means for displaying values of the parameters;

means for enabling the user to selectively change one of the values so displayed; and

5 means for automatically updating other ones of the values of the displayed parameters when such a change is made.

5. The system of claim 1, wherein the displayed breath cycle comprises:

a time scale;

an inspiration image disposed on the time scale;

5 an expiration image disposed on the time scale, adjacent to, but not overlapping, the inspiration image.

6. The system of claim 5, wherein the inspiration image comprises a graphic representation of inspiration duration and the expiration image comprises a graphic representation of expiration duration, the inspiration and expiration durations being calculated from selected values of the parameters.

7. The system of claim 5, wherein the displayed breath cycle further comprises a displayed value of a total breath duration calculated from selected values of the parameters.

8. The system of claim 6, wherein the displayed breath cycle further comprises a displayed value of a ratio of the inspiration duration with respect to the expiration duration.

9. The system of claim 8, wherein an inspiration time value is displayed in association with the graphic representation of the inspiration duration and an expiration time value is displayed in association with the graphic representation of the expiration time.

10. The system of claim 8, wherein the graphic representation of the inspiration duration is an inspiration bar and the graphical representation of the expiration duration is an expiration bar, the inspiration and expiration bars having lengths proportional to values of the inspiration and expiration time values and the time scale.

5 11. The system of claim 10, wherein the inspiration time value is displayed within the inspiration bar if the length of the inspiration bar is sufficient to allow the inspiration time value to be displayed within the inspiration bar and the expiration time value is displayed within the expiration bar if the length of the expiration bar is sufficient to allow the expiration time value to be displayed within the expiration bar.

12. The system of claim 11, wherein the inspiration time value is displayed adjacent to the inspiration bar if the length of the inspiration bar is not sufficient to allow the inspiration time value to be displayed within the inspiration bar and the expiration time value is displayed adjacent to the expiration bar if the length of the expiration bar is not sufficient to allow the expiration time value to be displayed within the expiration bar.

13. A ventilation system, comprising:
a touch screen for communicating with a user, the touch screen further comprising:
a ventilator settings screen including a plurality of ventilator related parameters;
means for enabling a user to selectively assign values for any of the parameters
utilizing touch screen techniques; and
a breath diagram displayed in association with the ventilator settings screen on the touch screen, the breath diagram being generated according to the selected values of the parameters.

14. The system of claim 13, wherein the breath diagram further comprises an inspiration portion and an expiration portion.

15. The system of claim 14, wherein the breath diagram further comprises a time scale.

16. The system of claim 14, wherein the breath diagram further comprises a displayed value for a complete breath cycle, the displayed value being calculated from the selected values of the parameters.

17. The system of claim 12, further comprising:
a memory for storing programming instructions, display data and the selected values of the parameters; and

5 a processor connected to the memory and the touch screen, the processor being responsive to the means for enabling the user to selectively assign values for any of the parameters displayed on the touch screen to generate the breath diagram.

18. The system of claim 17, wherein the breath diagram includes a time scale, an inspiration portion and an expiration portion, the inspiration and expiration portions each having a length calculated by the processor in response to the selected values of the parameters.

19. The system of claim 18, wherein the inspiration portion length and the expiration portion length are displayed in proportion to the time scale.

5 20. The system of claim 18, wherein the processor determines a display length for a value of the inspiration time and displays the value for the inspiration time within the inspiration portion if the display length for the value of the inspiration time is less than the length of the inspiration portion, other wise the value for the inspiration time is displayed adjacent the inspiration portion.

21. The system of claim 18, wherein the processor determines a display length for a value of the expiration time and displays the value for the expiration time within the expiration portion if the display length for the value of the expiration time is less than the length of the expiration portion, other wise the value for the expiration time is displayed adjacent the expiration portion.

22. The system of claim 19, wherein the processor is responsive to changes in the selected values of the ventilator parameters to adjust the lengths of the inspiration portion and the expiration portions and to display the adjusted inspiration and expiration portions as the changes are made by the user.

23. ~~22.~~ The system of claim 19, wherein one of the inspiration and expiration portions may be locked by the user such that the display of the locked portion remains changes while the display of the unlocked portion changes in response to changes in the selected values of the ventilator parameters.